

REMARKS

Claims 1-20 are pending in this Office action.

Claim Rejections under 35 USC §112, First Paragraph

Claim 5 is rejected under 35 U.S.C. 112, first paragraph. Applicants respectfully traverse this rejection. The Examiner has stated that the specification does not reasonably provide enablement for upstream configuration. According to the Examiner “the packets from the two communications terminals are collided if not properly multiplexed. It's not quite clear that how upstream information from the first communication terminal is time-shared with the upstream information from the second communication terminal over the second (share) communication loop.” Applicants respectfully disagree and would like to point the Examiner’s attention to page 7 of the specification. In lines 1-4, the specification describes various known methods for sharing information on one loop. Further in lines 6-17 referring to figure 5, the specification further refers to various known methods such as time division (frames), frequency division (tones), or code division (e.g., CDMA or the like) techniques, which one skilled in the telecommunication art would understand and know how to apply.

Accordingly, the specification adequately supports claim 5 and provides enablement for one skilled in the telecommunication art. Applicants respectfully request the withdrawal of rejection of claim 5 under 35 USC §112, first paragraph.

Claim Rejections under 35 USC §102(e)

Claims 12 and 19 are rejected under 35 U.S.C. 102(e) as being anticipated by Smith et al. U.S. Patent 5,841,840. Applicants respectfully traverse these rejections.

To anticipate a claim, the reference must teach every element of claim. See MPEP §2131. Smith et al. do not teach every element of claim 12. The Examiner has stated that “second CP modem 32 serves residential telephones 36” applicants respectfully disagree. As described by

Smith et al., CP modem 31 only serves computer 33. In fact, Smith et al. even suggests an integrated modem 30 to incorporate CP modems 31 and 32 (*see* col. 2, lines 54-65). Further, Smith et al. suggests that “[i]n preferred embodiment, the elements of the CP modems 30 as well as CS modem 10 are implemented in software that is stored in a memory and that configures and drives a suitable digital signal processor engine (DSPE) situated in the respective modem.” (Col. 3, lines 2-7). Thus, the integrated modem 30 is designed to serve the computer terminal 33 only.

Furthermore, figure 2 and corresponding description describe that the modem controller 34 in the CP modem 32 is configured to release the communication loop 17 whenever there is a request for voice service. Thus, telephones 36 use loop 17 only when there is a need of voice service and the CP modem 32 does not service telephones 36. Claim 12 has been amended to recite that the second communication loop is a shared loop. Smith et al. do not teach this limitation. Accordingly, Smith et al. do not teach every element of claim 12 and claim 12 is patentably distinguishable from Smith et al.

Claim 19 has been amended to recite communicating information between the first communication terminal and the network node simultaneously over the first communication loop and at least one other communication loop, wherein the at least one other communication loop is configured to couple the network node to at least one other communication terminal, while the at least one other communication terminal communicates with the network node. Smith et al. do not teach this limitation. Accordingly, claim 19 is patentably distinguishable from Smith et al.

Claim Rejections under 35 USC §103(a)

Claims 1-4, 6-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith et al. U.S. Patent 5,901,205 in view of Davis U.S. Patent 6,498,806 B1. Applicants respectfully traverse these rejections.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation in the references to combine reference teachings;

Second, there must be a reasonable expectation of success; and finally, the combination of prior art must teach or suggest all the claim limitations. *See* M.P.E.P. § 2142.

1. The cited references do not suggest or provide motivation to combine their teachings.

Smith et al. is directed to sharing two distinct subscriber loops on need basis. The multi-line DSL modem 52 is configured to detect POTS call on either one of the subscriber loops and teardown the data call on that subscriber loop to allow the POTS call for the telephone connected to that loop (*see* abstract, figure 3 and corresponding description). In contrast, Davis et al. is directed to statistical multiplexing within an ADSL modem (col. 2, lines 34-37). Davis et al. does not terminate data communication for POTS call. As shown in figure 4 of Davis et al., the low frequency range 40 is used for POTS transmission and frequency ranges higher than the POTS frequency range 40 are used for ADSL (*see* col. 6, lines 2-10). Further, Davis uses one loop per subscriber having its own line interface circuit 38, which keeps POTS and received modem signals for each subscriber isolated (col. 5, lines 44-50). Furthermore, Davis et al. is directed to reducing overall network components (col. 2, lines 50-64). Davis et al. teaches away from using single line loops for each connection where Smith et al. suggest one loop per subscriber for each type (data or POTS) of communication.

The Examiner has suggested that “[w]ith the modification, one interface is configured to serve a communication terminal, while the multi-line DSL interfaces 38 is configured to couple to DSL line 54, DSL line 56, and line 58, which serves telephone 12.” (Emphasis added). Applicants would like to point to the Examiner that the interface circuit of Davis et al. is not designed to serve multiple DSL lines as the Examiner is suggesting instead, according to Davis et al. “[e]ach subscriber line typically requires its own line interface circuit 38, which isolates the source of transmit signal from the subscriber line itself in order to keep the POTS and received modem signals for each subscriber line isolated.” (Col. 5, lines 44-48, emphasis added). The Examiner’s suggestion is not only inapplicable but clearly contradicts Davis et al.’s description of its own circuit. Therefore, the cited references not only do not suggest or provide motivation to combine their teachings but in fact, they teach away from combining their teachings.

Accordingly, it would not have been obvious to one of ordinary skill in the art at the time the invention was made to combine teachings of the cited references.

2. There is no reasonable expectation of success in combining the cited references.

As explained above, Davis et al., teaches away from using individual loops for each type of communication and that the circuit the Examiner has identified, interface 38 for serving more than one line, is actually designed for one single loop. "The proposed modification cannot render the prior art unsatisfactory for its intended purpose." Further, "The proposed modification cannot change the principle of operation of a reference." See M.P.E.P §2143.01 Thus, there cannot be a reasonable expectation of success in forcing interface circuit 38 to serve more than one loop when it is designed to serve only a single loop. "The fact that references can be combined or modified is not sufficient to establish *prima facie* obviousness." See M.P.E.P §2343.01. Thus, there cannot be a reasonable expectation of success in combining the cited references.

3. The combination of cited references does not teach all the claim limitations.

The Examiner has admitted that "Smith et al. does not show the claimed modem having a transceiver, which comprises a first interface and second interface as set forth in the claim." However, the Examiner cites Davis et al. as "[t]he multi-line ADSL modem 30 includes a transceiver, multi-line DSL interfaces 38 for connecting to plurality of local loops." As explained above and as clearly described by Davis et al. the interface 38 is designed to serve each individual loop and not for multiple loops. Therefore, Smith et al. cannot be combined with Davis et al. and the combination does not teach, suggest, or describe all limitations of claim 1. Accordingly, the Examiner has failed to establish a *prima facie* case of obviousness as required under 35 USC 103(a) and Applicants believe that claim 1 is patentably distinguishable from the combination of the cited references and in condition for allowance.

Claims 2-4 and 6-10 depend from claim 1 and are patentably distinguishable from the combination of cited references for at least the same reasons as claim 1.

Claim 11 depends from claim 1 and is patentably distinguishable from the combination of cited references for at least the same reasons as claim 1. Further as to claim 11, the Examiner has cited subscriber line 54 of Smith et al. as master communication loop; however, in rejecting claim 11, the Examiner has stated that "...in Davis invention, the multi-line ADSL modem 30 includes POTS XFMR splitters separating ADSL information from voice information, and it can be configured to allow voice information to communication over communication loop as appreciated by one of ordinary skill in the art." A careful reading of Smith et al. as cited by the Examiner suggests that the circuit of Smith et al. is actually designed to avoid using the splitter. Applicants would like to request the Examiner's attention to column 1, lines 24-33 of Smith et al. where they actually describe problems of using POTS splitters and teach away from using those splitters. Thus, the Examiner's suggestion of using splitters contradicts Smith et al.'s design. Accordingly, the cited references do not teach, suggest, or describe all limitations of claim 11 and claim 11 is further patentably distinguishable from the combination of cited references.

Claims 13-18 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith et al. U.S. Patent 5,841,840 and U.S. Patent 5,901,205 as applied to claims 12 and 19 below, and further in view of Davis U.S. Patent 6,498,806 B1. Applicants respectfully traverse these rejections.

Claims 13-18 depend from claim 12, which has been distinguishable from Smith et al. ('205 Patent) for failing to disclose a shared loop between two communication terminals. Therefore, the combination of the cited references cannot render claims 13-18 obvious. Further, as to claim 15 the Examiner has stated that "[h]ence, first CP modem 31 can be modified to have POTS XFMR splitter separating ADSL information from voice information, and allowing voice information to communication over communication loop 16." However, Smith et al. do not suggest having simultaneous voice and data communication over communication loop 16. In fact, Smith et al. teaches away from using simultaneous communication over one communication loop by providing modem controller so that the maximum bandwidth of 33.6 kbps can be utilized for the computer 33 (*see* figure 1 and corresponding description). Accordingly, claim 15 is further patentably distinguishable from the combination of cited references.

Claim 20 depends from claim 19 and is patentably distinguishable from the combination of cited references for at least the same reasons as claim 19.

Applicant believes this application and the claims herein to be in a condition for allowance. Should the Examiner have further inquiry concerning these matters, please contact the below named attorney for Applicant.

Respectfully submitted,



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